

REMARKS

The application has been amended to place the application in condition for allowance at the time of the next Official Action.

Claims 13-19 were previously pending in the application. Claims 13 and 14 are canceled; leaving claims 15-19 for consideration.

Canceling claim 13 and amending claim 15 to remove the term "high" is believed to obviate the 35 USC §112, second paragraph rejection noted on page 2 of the Official Action.

Canceling claims 13 and 14 is believed to obviate the 35 USC §102(b) rejection over MINAMI 4,874,808, noted on page 2 of the Official Action.

Claim 19 was rejected under 35 USC §102(b) as being anticipated by USAMI JP 2002-303574. That rejection is respectfully traversed.

Claim 19 is amended and recites among other elements a light semi-transmissive plate made of cycloolefin for transmitting terahertz waves.

As recognized on page 5 of the Official Action, USAMI does not disclose cycloolefin components.

As the reference does not disclose that which is recited, the anticipation rejection is not viable. Reconsideration and withdrawal of the rejection are respectfully requested.

Claims 15 and 16 were rejected under 35 USC §103(a) as being unpatentable over USAMI in view of MINAMI. That rejection is respectfully traversed.

As set forth above, the Official Action recognizes that USAMI does not disclose cycloolefin components. MINAMI is offered for this feature, with the Official Action concluding that it would have been obvious to a person of ordinary skill in the art to use MINAMI's cycloolefin optical components in USAMI's terahertz wave optical system because cycloolefin optical components have desirable dielectrical properties with a low absorption and index of refraction.

However, this position is untenable for at least the following reasons.

First, the proposed combination of references does not take into account the claimed invention as a whole.

The Federal Circuit has held that in determining the differences between the prior art and the claims, the question under 35 USC §103 is not whether the differences themselves would have been obvious, but whether the claimed invention as a whole would have been obvious. *Stratoflex, Inc. v. Aeroquip Corp.*, 715 F.2d 1530, 218 USPQ 871 (Fed. Cir. 1983).

Claim 15 is directed to a terahertz wave optical system and recites a terahertz wave generation source and an optical component comprising a polymer of cycloolefin arranged on the

optical axis of terahertz waves generated from the terahertz generation source.

Column 16, lines 62 through column 17, line 47 of MINAMI discloses that cycloolefin random copolymer compositions may be used in optical lenses or other optical applications such as optical materials of reformed surface hardness, nevertheless, MINAMI does not disclose the use of cycloolefin polymers for transmitting terahertz waves.

The optical applications disclosed by MINAMI do not provide the rational underpinning as to why one of ordinary skill in the art would find it obvious to combine MINAMI with USAMI when cycloolefin polymers are used for transmitting terahertz waves. MINAMI does not disclose or suggest any advantage of using cycloolefin polymers for transmitting terahertz waves.

Thus, when the claimed invention is examined as the whole, the differences between the prior art and the claims would not have been obvious.

Second, MINAMI does not disclose a relationship between dielectric properties and the use of a dielectric material when designing a terahertz optical system. Thus, the disclosure of MINAMI is insufficient to motivate one of ordinary skill in the art to combine MINAMI with the terahertz optical device of USAMI.

Claims 17 and 18 were rejected under 35 USC §103(a) as being unpatentable over USAMI in view of MINAMI, and further in view of NUSS 5,789,750. That rejection is respectfully traversed.

NUSS is only cited for the disclosure of a terahertz spectrometer that operates between 100 GHz and 20 THz. NUSS does not overcome the shortcomings of USAMI and MINAMI as set forth above with respect to claim 15. As claims 17 and 18 depend from claim 15 and further define the invention, claims 17 and 18 are believed patentable at least for depending from an allowable independent claim.

By way of further explanation, an object of the present invention is to have an apparatus used for both terahertz waves and visible light having different wavelengths. Transmissivity is different between two types of lights if their wavelengths differ. The present inventors discovered that cycloolefin has excellent transmission characteristics with respect to both terahertz waves and visible light having different wavelengths.

The present inventors found that the difference of the refractive index between terahertz waves and visible light is able to be reconciled by the recited apparatus when the optical axis of terahertz waves can be recognized through visible light as recited in claim 19 and where the cycloolefin optical component is arranged on the optical axis of the terahertz wave generated from the terahertz generation source, as recited in claim 15.

The proposed combination of references does not disclose or suggest the above recited features. Accordingly, the

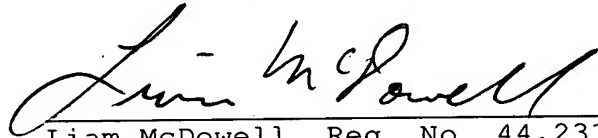
references either alone or in combination would not have been sufficient to prevent the patentability of the recited claims.

In view of the present amendment and the foregoing remarks, it is believed that the present application has been placed in condition for allowance. Reconsideration and allowance are respectfully requested.

The Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 25-0120 for any additional fees required under 37 C.F.R. § 1.16 or under 37 C.F.R. § 1.17.

Respectfully submitted,

YOUNG & THOMPSON

A handwritten signature in cursive script, appearing to read "Liam McDowell", is written over a horizontal line.

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